

12AQ5

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BEAM POWER AMPLIFIER

MINIATURE TYPE

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:

Voltage	12.6	ac or dc volts
Current	0.225	amp

Direct Interelectrode Capacitances (Approx., without external shield):

Grid No.1 to Plate	0.35	μμf
Input	8.3	μμf
Output	8.2	μμf

Mechanical:

Mounting Position	Any
Maximum Overall Length	2-5/8"
Maximum Seated Length	2-3/8"
Length, Base Seat to Bulb Top (Excluding Tip)	2" ± 3/32"
Maximum Diameter	3/4"
Bulb	T-5-1/2
Base	Small-Button Miniature 7-Pin (JETEC No.E7-1)

BOTTOM VIEW

Pin 1 - Grid No.1
Pin 2 - Grid No.3, Cathode
Pin 3 - Heater
Pin 4 - Heater
Pin 5 - Plate
Pin 6 - Grid No.2
Pin 7 - Grid No.1

AF POWER AMPLIFIER - Class A_1

Maximum Ratings, ***Design-Center Values:***

PLATE VOLTAGE	250 max.	volts
GRID-No.2 (SCREEN) VOLTAGE	250 max.	volts
PLATE DISSIPATION	12 max.	watts
GRID-No.2 INPUT	2 max.	watts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode	90 max.	volts
Heater positive with respect to cathode	90 max.	volts
BULB TEMPERATURE (At hottest point on bulb surface)●	250 max.	°C

Typical Operation and Characteristics:

Plate Voltage	180	250	volts
Grid-No.2 Voltage	180	250	volts
Grid-No.1 (Control-Grid) Voltage	-8.5	-12.5	volts
Peak AF Grid-No.1 Voltage	8.5	12.5	volts
Zero-Signal Plate Current	29	45	ma
Max.-Signal Plate Current	30	47	ma

●: See next page.

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Zero-Signal Grid-No.2 Current (Approx.)	3	4.5	ma
Max.-Signal Grid-No.2 Current (Approx.)	4	7	ma
Plate Resistance (Approx.)	58000	52000	ohms
Transconductance	3700	4100	µmhos
Load Resistance	5500	5000	ohms
Total Harmonic Distortion	8	8	per cent
Max.-Signal Power Output	2.0	4.5	watts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:		
For fixed bias	0.1 max.	megohm
For cathode bias	0.5 max.	megohm

AF POWER AMPLIFIER - Class AB_1

Maximum Ratings, *Design-Center Values:*

PLATE VOLTAGE	250 max.	volts
GRID-No.2 (SCREEN) VOLTAGE	250 max.	volts
PLATE DISSIPATION	12 max.	watts
GRID-No.2 INPUT	2 max.	watts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode	90 max.	volts
Heater positive with respect to cathode	90 max.	volts
BULB TEMPERATURE (At hottest point on bulb surface)●	250 max.	°C

Typical Operation:

Unless otherwise indicated, values are for 2 tubes

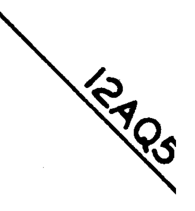
Plate Voltage	250	volts
Grid-No.2 Voltage	250	volts
Grid-No.1 (Control-Grid) Voltage#	-15	volts
Peak AF Grid-No.1-to-Grid-No.1 Voltage	30	volts
Zero-Signal Plate Current	70	ma
Max.-Signal Plate Current	79	ma
Zero-Signal Grid-No.2 Current (Approx.)	5	ma
Max.-Signal Grid-No.2 Current (Approx.)	13	ma
Plate Resistance (Approx. per tube)	60000	ohms
Transconductance (Per tube)	3750	µmhos
Effective Load Resistance (Plate to plate)	10000	ohms
Total Harmonic Distortion	5	per cent
Max.-Signal Power Output	10	watts

● High ambient temperature and shielding may necessitate a reduction in operating dissipation. When tube shields are used, it is advisable to paint the inside and outside surfaces of the tube shield a dull black and to provide ventilation slots to reduce operating temperature.

#: See next page.

TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY





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Maximum Circuit Values Per Tube:▲

Grid-No.1-Circuit Resistance:#

For fixed bias	0.1 max.	megohm
For cathode bias	0.5 max.	megohm

The type of input coupling used should not introduce too much resistance in the grid-No.1 circuit. Transformer- or impedance-coupling devices are recommended.

▲ If the grid-No.1-circuit resistance is common to two tubes, the indicated maximum values per tube should be halved.

Curves shown under Type 6V6 also apply to 12AQ5

TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY